

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (Currently Amended) An automatic surveying system comprising:

a telescopic optical system;

an image pickup device for picking up an image of a graduated face of a level rod, to which the telescopic optical system is to be collimated, and converting ~~said~~ the image into image data;

a memory which stores ~~therein~~ recognition data of at least one of a pattern, numbers, and scale calibrations, provided on the graduated face of the level rod, said stored recognition data corresponding to a plurality of different kinds of level rods;

a selection device for selecting one of the plurality of different kinds of level rods;

and

an ~~analyzing device~~ analyzer for analyzing and recognizing the picked-up image of said at least one of the pattern, numbers, and scale calibrations of the level rod, based on the image data of the level rod picked up by the image pickup device and the recognition data of said pattern, numbers, and scale calibrations corresponding to the selected kind of level rod, read from the memory, to obtain a measurement.

2. (Cancelled)

3. (Currently Amended) An automatic surveying system, according to claim 1, further comprising an ~~indication device~~ indicator for indicating said measurement obtained by the ~~analyzing device~~ analyzer.

4. (Currently Amended) An automatic surveying system according to claim 1, wherein said ~~analyzing device~~ analyzer determines the amount of image data of said level rod in the image width direction based on the image data of the level rod, and performs the analysis based on the amount of the image data thus obtained.

5. (Currently Amended) An automatic surveying system according to claim 1, wherein said ~~analyzer device~~ analyzer determines the amount of image data of said at least one of the pattern, numbers, and the scale calibrations in one of the image width direction and the image height direction, based on the image data of the level rod, and performs the analysis based on the amount of the image data thus obtained.

6. (Currently Amended) An automatic surveying system ~~according to claim 3,~~
comprising:

a telescopic optical system;

an image pickup device for picking up an image of a graduated face of a level rod,
to which the telescopic optical system is to be collimated, and converting the image into
image data;

a memory which stores recognition data of at least one of a pattern, numbers, and scale calibrations, provided on the graduated face of the level rod;

an analyzer for analyzing and recognizing the picked-up image of said at least one of the pattern, numbers, and scale calibrations of the level rod, based on the image data of the level rod picked up by the image pickup device and the recognition data of said pattern, numbers, and scale calibrations read from the memory, to obtain a measurement;
and

an indicator for indicating said measurement obtained by said analyzer,

wherein said ~~analyzing device~~ analyzer recognizes the values of the pattern, numbers, and the scale calibrations which coincide with a predetermined reference line within the field of view of the telescopic optical system.

7. (Original) An automatic surveying system according to claim 6, wherein the telescopic optical system comprises an auto-level collimating telescope, said auto-level collimating telescope including an objective optical system; a focusing optical system; a compensating/erecting optical system, a focusing plate, and an eyepiece optical system, in that order from the object side; and a beam splitter which is provided between the compensating/erecting optical system and the focusing plate to split object image carrying light into one light bundle which is incident upon the eyepiece optical system and another light bundle which is incident upon the image pickup device.

8. (Currently Amended) An automatic surveying system according to claim 7, wherein said memory ~~device~~ stores ~~therein-in advance~~ coordinates on a light receiving surface of an image pickup element on which a horizontal line and a stadia line of the focusing plate are to be formed, so that one of the coordinates of the graduated face of said level rod ~~coincidental~~ coincident with each line and the distance between the lines on the graduated face can be analyzed based on the stored coordinates and the coordinates of the image picked-up by the image pickup device, on the light receiving surface of the image pickup element.

9. (Currently Amended) An automatic surveying system according to claim 1, wherein said memory ~~device~~ can store said measurement obtained by the ~~analyzing device~~ analyzer.

10. (New) An automatic surveying system, according to claim 6, further comprising an indicator for indicating said measurement obtained by the analyzer.

11. (New) An automatic surveying system according to claim 6, wherein said analyzer determines the amount of image data of said level rod in the image width direction based on the image data of the level rod, and performs the analysis based on the amount of the image data thus obtained.

12. (New) An automatic surveying system according to claim 6, wherein said analyzer determines the amount of image data of said at least one of the pattern, numbers,

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and the scale calibrations in one of the image width direction and the image height direction, based on the image data of the level rod, and performs the analysis based on the amount of the image data thus obtained.

13. (New) An automatic surveying system according to claim 6, wherein said memory stores said measurement obtained by the analyzer.